Fall 2015

Mandarin Chinese as a Second Language: A Review of Literature

Wesley A. Spencer
The University Of Akron, was17@zips.uakron.edu

Mandarin Chinese as a Second Language:

A Review of Literature

Wesley Spencer

School of Communication

Honors Research Project

Submitted to

The Honors College

Approved:

_____ Date 12/8/2015
Honors Project Sponsor (signed)

YANG LIN
Honors Project Sponsor (printed)

_____ Date 12/8/15
Reader (signed)

Kathleen D Clark
Reader (printed)

_____ Date 12/8/15
Reader (signed)

Dudley Turner
Reader (printed)

Accepted:

_____ Date 12-9-15
School Director (signed)

J. T. Dukes
School Director (printed)

_____ Date 12/9/2015
Honors Faculty Advisor (signed)

Kathleen D. Clark
Honors Faculty Advisor (printed)

_____ Date _____
Dean, Honors College

Mandarin Chinese as a Second Language:
A Review of Literature

Abstract

Mandarin Chinese has become increasing prevalent in the modern world. Accordingly, research of Chinese as a second language has developed greatly over the past few decades. This paper reviews research on the difficulties of acquiring a second language in general and research that specifically details the difficulty of acquiring Chinese as a second language. Based on this research, the author also reveals some areas that should be researched further in order to advance the field.

Preface

According to Lewis, Paul, Simons and Fennig (2015) the Chinese language family is the largest language family in the world with around 1,197,000,000 total speakers. Lewis et al.'s study shows that the Chinese language family is separated into thirteen groups with the Mandarin Chinese group being the largest with 848 million native speakers. Even when focusing solely on Mandarin Chinese it is still the most widely used language, by over double, with Spanish coming in at as the second most spoken language in the world at 399 million speakers (Lewis et al., 2015). Note that these statistics only consider native speakers of said language. Speaking Mandarin could, theoretically, allow one to communicate directly with the most native speakers of any sole language. While the reach of Mandarin Chinese is quite large its use goes beyond that of just communicating to a large population of people. Mandarin is the sole official language of the People's Republic of China [China] and the Republic of China [Taiwan]. Mandarin is also one of four official languages of the Republic of Singapore and one of six official languages of the United Nations. As such Mandarin can be used to communicate with these governments on various levels. Also, according to the International Monetary Fund (2015) China is the largest economy in the world as of April 2015 in regards to adjusted purchasing power parity and second in the world, the United States is the first, when regarding raw economic power. China's status as an emerging world power with a successful and expanding economy presents a large opportunity for outsiders to benefit by engaging with different entities of the Chinese economy; Mandarin can provide an in for these outsiders to the country's economic community. Given the current opportunities and wide spread use of the language the time for non-native speakers to learn Chinese, specifically Mandarin Chinese, has arguably never been better.

Although the time is right for learning Chinese it is not without difficulties as it is considered one of the world's most difficult languages for non-native speakers to become proficient in, especially native English speakers. The following review will summarize the difficulties of going through the process of learning the Chinese language, as a second language, and topics directly related to the process. The 1st section will focus on the difficulties of learning a second language in general. Following the 1st section will be a 2nd section about the difficulties and oddities related solely to Mandarin. A 3rd and final section will contain my own discussion and suggestions about the things I have discovered and suggest areas to be studied in the future to further enhance knowledge of the field as well as the capacity for learners to proficiently learn the language.

Second Language Learning

Second Language Learners

The term second language learner, as far as this review is concerned, refers to any one person in the process of learning a second language that is not a native language to said learner. The learner's native language, in the context of this review, will be referred to as the first (L1) language while the second, non-native, language will be referred to as the second (L2) language. While the benefits of second language learning are various there also several types of difficulties that learners must contend with.

L2 Listening Comprehension

Several factors affect learners of a second language ability to appropriately listen to and comprehend the L2 language. According to Chang, Wen-Pin, and Pang (2013) several studies have shown L2 learners have more difficulty developing listening comprehension skills as compared to reading, speaking, or writing skills (also see the following sources in Recommended Reading: Chafe, 1985; Biber, 1988). Added difficulties stem from several variable linguistic factors that make spoken language less stable than written language. The following sub-section will outline the major findings involving specific, important factors and brief summary on which factors are the most relevant in regards to comprehension.

Speech Rate. According to Chang, Wen-Pin, and Pang (2013) speech rate is shown to have an effect on listener comprehension but studies are inconclusive on whether or not slower speech rates lead to higher rates of comprehension. Chang et al. (2013) have suggested that this is due to different text types, such as a monologue or dialogue, having different natural rates (see Tauroza & Allison, 1990).

Accent Familiarity. Chang et al. (2013) state that accent familiarity and ability to understand pronunciation are believed, by some, to be the most important factors in listening comprehension (also see Wilcox, 1978; Ekong, 1982; Smith & Bisazza, 1982; Ortmeyer & Boyle, 1985; Major, Fitzmaurice, Bunta, & Balasubramanian, 2005; Matsuura, 2007; Scales, Wennerstrom, Richard, & Wu, 2006). Chang et al. (2013) said there is evidence that when the L2 language is spoken with the listener's local accent that comprehension improves (also see Wilcox, 1978; Ekong, 1982). However, Chang et al. (2013) also states that there is conflicting evidence that concludes comprehension improves when a standard accent is used (also see Ortmeyer & Boyle, 1985). While this data is inconsistent it shows that accent familiarity does have some bearing on listening comprehension. When a listener is not familiar with a speaker's accent comprehension is negatively affected (Chang et al., 2013). Chang et al. (2013) state that accent familiarity can be acquired with time and as such accent unfamiliarity can be considered a temporary factor (also see Tauroza & Luk, 1997).

Hesitations and Pauses. According to Chang et al. (2013) hesitations and pauses in relation to L2 learners have been the focus of many studies. These studies reveal there is some conflicting data on whether or not various types of hesitations are beneficial to the listener. However, the general consensus seems to be the ability level of the learner is the directly relative to the effect of verbal hesitations. Learners with a low L2 ability level are less likely to recognize hesitations and pauses as filler information while a high level learner is more likely to recognize them as filler. Accordingly, low level learners in are less likely to comprehend the speaker if hesitations or pauses are used. Hesitations and pauses have the opposite effect on high level learners since they are able to recognize them as filler; this type of filler tends to slow down the speaking rate which may enable higher levels of comprehension (Chang et al., 2013).

Text Types. According to Chang et al. (2013) text type refers to the specific format of speaking, such as a monologue or a dialogue, and whether or not the speaking is scripted. However, as of now there has not been enough concise data to assume the effects of text type on L2 learners' ability to comprehend the L2 language. The topic of a text is however, shown to affect comprehension. Topic familiarity and appropriate background information have significant effect on comprehension of a text.

Task Types. Task type refers to the format in which a listener is expected to listen to a speaker and then respond accordingly. Chang et al. (2013) state that test takers tend to score better on localized questions, i.e. questions that require no background information and focus on lexical items, as compared to globalized questions, i.e. questions that require prior knowledge or inference (also see Shohamy & Inbar, 1991; Jensen & Hansen, 1995; Teng, 1998; Wu, 1998; Freedle & Kostin, 1999). Chang et al. (2013) also state that multiple choice style questions are the easiest questions for L2 listeners to answer, assuming said listeners have the reading ability to comprehend the questions.

Contextual Learning Theory. Contextual learning is a theory of teaching and learning in which teachers are able to teach students by providing a context that allows students to construct meaning in their own way based on experience, for example a visual helper or marker could be the contextual support for a L2 learner when studying vocabulary. In regards to contextual support Chang et al. (2013) state that studies have shown contextual support has an effect on listening comprehension (also see Mueller, 1980; Wolff , 1987; Herron, 1994; Herron, Hanley, & Cole, 1995; Chang & Read, 2006, 2007). However, according to Chang et al. (2013), video contextual support during audio based tests has shown mixed results and claim that video support may be distracting to test takers (also see Gruba, 1997; Coniam, 2001).

Second Language Listening Summary. According to Chang et al. (2013) the most important factors, in order of importance, that affect L2 listener's comprehensions are text factor, input channel and surroundings, relevance, listener factor, speaker factor, and task characteristics. Text factor refers to characteristics and components that arise directly from the speaker's text. Components that affect comprehension include but are not limited to unknown words, difficult grammar structures, unfamiliar topics, abstract concepts, long sentences, and word stress. Input channel and surroundings refer to the quality of audio being listened to and the environment in which it is being listened to in. Around 50% of listeners require loud and clear audio to understand it. Relevance refers to whether or not the input text is relevant or interesting to the listener. Relevant and interesting texts increase comprehension while the opposite is true for irrelevant and uninteresting texts. Listener factor refers to the listener's personal condition, such as nervousness and physical factors like hunger. Nervousness is well known to affect comprehension but the effect of physical factors have rarely been researched. Speaker factor refers to speech rate, loudness, pronunciation, and accent. Finally, task characteristic references things such as the number of times listener listens to an input, as well as visual or textual support. These six factors are evidenced to be the cause of 57% of L2 listening difficulties; 28% of the variance arises from the input text. However, it should be noted that these statistics are primarily relating to low level learners, which make of the majority of L2 learners. High level learners and young children have additional factors that may affect them as well (Chang et al., 2013).

L2 Speaking

Second language speaking ability refers to the ability of a L2 learner to speak, enunciate, pronounce, and generally verbally communicate using the L2 language. It also relates directly to

the learner's flow, rhythm, and speaking style. I will only be addressing a few areas in which appear to have significant and persistent effect on listeners.

Issues in Regards to Fluency and Speaking Style. De Jong, Florijn, Hulstijn, Schoonen, and Steinel (2010) define fluency, usually referring to L2 speech, broadly as a person's overall speaking proficiency or narrowly as a person's smoothness and ease of language delivery. Fluency levels differs from person to person based on speaking rate, use of filled pauses, unfilled pauses, and pause length. These differences are present in native and nonnative speakers.

L2 language fluency is a trait that should be desired by learners as it shows an overall greater competence in regards to said language. However, based on the prior information the method of determining fluency can become muddled. How does one determine whether aspects of fluency in L2 speech derive from linguistic proficiency or from personality traits? At what point can a speaker say that they are fluent? The major issue here is that level of fluency can be difficult to accurately discern. According to De Jong et al. (2006) fluency should be separated into three categories: cognitive fluency, utterance fluency, and perceived fluency (see Segalowitz, 2010). Cognitive fluency refers to a speaker's ability to plan and deliver speech. Perceived fluency, as defined by De Jong et al. (2010), is the impression a listener has of the fluency of a speaker.

De Jong et al. (2010) noted that utterance fluency can be divided into three separate parts: breakdown fluency, speed fluency, and repair fluency. Breakdown fluency refers to the flow of a speech and is measured by counting the number and length of pauses. Speed fluency simply refers to the speed at which speech occurs and is measured by calculating speech rate. Repair fluency refers to how frequently a speaker false starts, makes corrections and utters repetitions. (also see Skehan, 2003; Tavakoli, 2005).

Several studies with various types of raters, in this scenario a listener who measures fluency, have been conducted on the relationship between utterance fluency and perceived fluency. De Jong et al. (2010) state that regardless of the type of rater, trained or untrained, strong associations have been found between utterance fluency and perceived fluency. Even though measures used during the previously mentioned studies varied all studies showed that some measure of pausing and some measure of speech rate are related to fluency perception. Some studies have shown that pronunciation, grammar, and vocabulary may have an effect on perceived fluency. However, it may be semi-difficult to accurately determine the correlation between utterance fluency and perceived fluency due to the methodology of the raters. Fluency as perceived by listeners or raters is said to be dependent on the instructions that the listeners receive, for example a rater may be told to focus on speech rate. If given instructions a rater is more likely to focus on the aspects laid out in the instructions, while if given no instructions a listener is more likely to use their own preconceived notion of fluency to rate the speech in question. De Jong et al. further state that a subjective rating of a speech that is objectively measured cannot guarantee that the measured aspects are related to L2 proficiency and that the measured aspects may also be related to other differences, such as personal speaking.

Furthermore, it may be difficult to determine which measures of fluency actually relate to cognitive fluency. De Jong et al.'s (2010) study concluded that while L2 cognitive fluency and L2 utterance fluency are related that not all measures of utterance fluency are seen as indicators of cognitive fluency. For example, mean silent pause duration is not a good indication of cognitive fluency. De Jong et al. speculate that this measure and other similar measures correlate with personal speaking style.

De Jong, Groenhout, Hulstijn, and Schoonen's (2012) later study concluded that there is some correlation between L1 and L2 speech, stating that future research would benefit by sampling by types of speech. For example, when measuring a speaker's syllable duration during relation of L2 linguistic processing and utterance fluency, adjusting the measure to be based off L1 behavior (personal speaking style and habits) leads to more precise results. The study also states that when referring to number of filled pauses, it would be pointless for a person who uses many filled pauses in L1 speech to try to eliminate them in L2 speech. De Jong et al. further hypothesize that in order for learners to become more L2 fluent they may need to improve their overall speaking style in all languages, including their L1 language. However, the study states that there is no reason to adjust for L1 behavior during fluency tests that have a predefined criterion because the adjustments would supersede the predefined criterion. It is unknown in real life scenarios if listeners are able to reliably distinguish L2 disfluencies related to actually proficiency and disfluencies related to personal speaking style. Overall they believe that utterance fluency and duration of pauses should play a modest part when determining L2 cognitive fluency, while a corrected measure (based off L1 data) of syllable duration should play a stronger role.

Anxiety in Relation to L2 Language Speaking. In addition to the previous issues L2 learners must also contend with various forms of performance anxiety. Anxiety is considered to be one of the most major debilitating problems when referring specifically to second language speaking. According to Woodrow (2006) anxiety can reliably divided into two separate categories: reflectional worry and emotionality (also see Liebert & Morris, 1967). Woodrow (2006) states that reflectional worry refers to debilitating cognitive reactions such as self-deprecating thoughts while emotionality refers to physiological reactions, such as a racing heart

(see Zeidner, 1998; Naveh-Benjamin, 1991). Woodrow (2006) finds that worry is more debilitating because it uses cognitive capacity that would normally be focused on the task at hand (see Tobias, 1985). Tobias's (1985) study found that anxiety can reasonably be split into two models: interference retrieval model and a skills deficit model. Interference retrieval model anxiety refers being unable to recall information during the output stage; while the skills deficit model relates to problems back at the input stage, such as bad studying habits, which then lead to realization of this lack of skill during the output stage which leads to anxiety (Tobias, 1985).

Woodrow (2006) claims that it may be possible that classroom based situations may be less anxiety inducing than daily life situations in a second language environment. The majority of research involving L2 language learning anxiety involves the relationship between anxiety and the performance in said L2 language. Woodrow goes further to say that numerous studies have concluded that anxiety is negatively related to language performance and that some claim that it may be the strongest predictor of foreign language success (also see MacIntyre, 1999).

According to Woodrow (2006), Horwitz, Horwitz, and Cope created a scale to measure language learning anxiety. The scale known as the Foreign Language Classroom Anxiety Scale, or FLCAS, consists of three main components: communication apprehension, the fear of negative evaluation, and test anxiety (see Horwitz, Horwitz, & Cope, 1986). Woodrow states that the FLCAS has been proved to be reliable and credible (also see Aida, 1994; Phillips, 1992). This shows a correlation between anxiety and negative oral performance.

Woodrow's 2006 study confirmed that there is a formidable negative relationship between L2 language speaking anxiety and oral performance. The study also found that L2 language speakers found speaking to a teacher and in front of a class to be more stressful than speaking outside of class. Woodrow also found that there to be no significant effect on anxiety

due to sex, but that there may be an effect due to the ethnicity and culture of the speaker compared to the listener may exist. During Woodrow's study 85% of participants experienced anxiety to some extent. Woodrow's findings showed that participants indicated that major anxiety inducing stressors were performing in the L2 language (English in this specific case) in front of classmates, giving an oral presentation, and interacting with native speakers. These stressors all had a higher than 42% prevalence. Most respondents reported physiological reactions (51.1%) and cognitive reactions (48.9%). Behavioral reactions (34%) were the least common. Physiological reactions include things like sweating and a racing heart, while cognitive reactions included worrying about performance and mind going blank. Behavioral reactions included fidgeting, stuttering, and things of a similar nature. Half of the respondents gave methods of coping with L2 language speaking anxiety. Methods included perseverance, improving language skills, positive thinking, compensation, and relaxation techniques. Ultimately L2 language speaking anxiety was seen as a debilitating and harmful to the language learning process.

Summary. My interpretation of this data is that while fluency may already be difficult for learners to attain it is made more difficult by the fact that the fluency in itself is difficult to measure and the perception of the learner's ability may be influenced by their own speaking styles and the notions of the listener. Based on this information I am of a mind to agree with De Jong et al.'s (2012) contention that improving one's overall speaking style may improve one's fluency in an L2 language. Speaking anxiety is also obviously a serious detriment to learners and should be seen as an obstacle to overcome.

L2 Reading

For the purpose of my review, L2 reading will refer to a L2 learner's ability to comprehend a written piece of work in the corresponding L2 language.

Effects of Vocabulary Knowledge and Decoding Skills on Comprehension. Lervag and Aukrust's (2010) longitudinal study of Norwegian reading comprehension found many differences between L1 learners' reading comprehension levels and L2 learners' comprehension levels. They attribute many of these difference to differences in vocabulary.

Lervag and Aukurst (2010) found that L1 learners began with better initial reading comprehension skills and that their skills developed faster over time. However, they found no difference in decoding abilities between L1 and L2 learners. Decoding skills refer to the ability of a person to make sense of and analyze printed words in a way that relates it to the spoken word. They also found that it is possible to predict a learner's beginning comprehension skills by examining their vocabulary and their decoding skills.

Lervag and Aukurst's (2010) statement that L2 readers had poorer comprehension skills than L1 readers is consistent with previous Dutch based studies but inconsistent with some previous English based studies. They attributed this discrepancy to the importance of decoding skills. They state that Dutch and Norwegian are more consistent orthographies, unlike English. Inconsistent orthographies supposedly take longer to learn how to decode. This indicates that orthographies and decoding skills are related to comprehension. They believe that decoding skills are the dominate ability in regards to beginning reading comprehension.

Lervag and Aukurst (2010) further found that later on in development, when decoding is sufficient enough, that the semantic component was the reason for L2 learners' lacking reading comprehension. Vocabulary skills were found to be directly related to the growth of reading

comprehension once decoding had become more proficient. When L2 learners fell behind in vocabulary they fell behind their L1 counterparts in overall reading comprehension. They hypothesized that having a rich vocabulary base may allow a learner to develop an even richer vocabulary which would directly increase the growth rate of reading comprehension. Lervag and Akurust speculated that vocabulary-focused teaching instruction may help L2 learners to develop reading comprehension.

Basically these findings show that L2 learners are at a disadvantage compared to L1 learners in two regards. The first being that if the orthography of the language is inconsistent their decoding skills will be negatively impacted, which will in turn negatively affect comprehension. Secondly, these findings show the massive importance of vocabulary for L2 learners. If a learner has a large vocabulary pool their comprehension will grow at a faster rate and allow for new vocabulary to be acquired more efficiently.

Effects of Stress and Anxiety on Reading Comprehension. Rai, Loschky, and Harris (2015) found that situational stress and trait anxiety were more likely to be present in and have a greater effect on L2 reading efficiency than L1 reading efficiency. However, they found that reading comprehension was only negatively affected by social-evaluative stress if a learner was higher in trait reading anxiety. Basically if a learner is prone to being stressed or anxious about second language reading it will negatively impact their reading comprehension and their self-evaluation of reading comprehension. As L2 learners are more prone to these characteristics than L1 learners it is more likely that stress and anxiety affect their reading comprehension.

L2 Writing

For the purpose of my review, L2 writing will refer to a L2 learner's ability to perform written communication in the L2 language. As most languages use different output methods,

structures, and grammar rules and this section is intended in the general sense, it will not focus on the aforementioned aspects. Instead this section will primarily focus on anxiety inducing stressors and their results when writing. The second section of this paper will feature specifically a section on the difficulties of writing in Chinese.

Difficulties Relating to Writing Apprehension. According to Cheng, Horwitz, and Schallert (1999) writing apprehension is a unique form of anxiety that only occurs during written communication. Abdel Latif (2015) states writing apprehension is a measure of writers' tendency to avoid scenarios in which they are required to write or scenarios where their writing would be evaluated. Abdel Latif (2015) further mentions that several previous studies showed that writing apprehension and writer performance are negatively related (also see Bennett & Rhodes, 1988; Daud, Daud & Abu Kassim, 2005; Erkan & Saban, 2011; Lee, 2005).

The negative effects of writing apprehension are various. Yarbrough's (1986) study found that writings of apprehensive writers are typically shorter and of lower quality than non-apprehensive writers. While Cheng et al. (1999) found that L2 writers are more concerned about the linguistics of their texts rather than the meaning of their content. Cheng (2002) later found that apprehensive writers are more likely to have low writing self-efficacy.

Abdel Latif's (2015) study concludes that writing apprehension arises from six main sources: linguistic knowledge level, perceived language competence, writing performance level, perceived writing competence, instructional practices, and fear of criticism. However, Abdel Latif also mentions that several studies have previously been conducted on whether or not gender plays in related writing apprehension, but states that results are varied and non-conclusive. It should be noted that Abdel Latif's (2015) study used all male participants in order to avoid possible gender based differences.

Abdel Latif (2015) argues that, based on the results of his study, the "Matthew Effect" may also affect writing. The "Matthew Effect" is a phenomenon where, traditionally, "the rich get richer and the poor get poorer". Basically this phenome boils down to meaning that those of a higher status or level tend to continue moving up while those of a lower status tend to continue moving downward. For example, Abdel Latif (2015) states that the motivational differences of the participants of his study are caused by histories of success or failure. Abdel Latif further states that students with histories of success became more motivated and tended to look for strategies to improve their skills, while students with histories of failure because adversely motivated and avoid writing scenarios.

Mandarin Chinese Learning

In addition the prior mentioned difficulties, which all L2 languages learners have to cope with, L2 learners of Mandarin Chinese also have several, specific morphological and syntactic factors working against them. L2 learners of Chinese have to contend with several salient features of Chinese that may or may not have counterparts in their native language. This section will detail the findings of several studies regarding these factors.

Morphological and Syntactic Issues

Difficulties in relation to Wh-Words. Chinese wh-words, such as *who* or *what*, can cause difficulties for learners due to some of the ways they can be used. One difficulty inducing concept is that in Chinese, wh-words stay *in situ*, meaning that they stay in the base generated position. In some languages, such as English, wh-words move position within sentence structures. According to Zhao (2011), Chinese wh-words can undergo topicalization as long as the wh-question is linked with discourse and the wh-topic meets several syntactic constraints. Topicalization is a syntactic mechanism that uses an expression as a sentence or topic clause. An

English example of this is as follows: "*For entertainment,* I read books." Normally this sentence would be written with the topic (*for entertainment*) in a canonical right position, but in this scenario is heads the sentence because it has undergone topicalization. Dugarova (2010) discovered that wh-topicalization can be acquired by L2 Chinese learners who have established base topicalization in their L2. She further found that not all types of wh-questions are acquirable in L2 Chinese due to L1 interference and internal mechanism of wh-words.

Zhao (2011) states that Chinese wh-words, such as *shenme (什么) 'what',* can be used as existential polarity words (EPW), with lexical words and functional morphemes (i.e. the yes-no question particle *ma (吗))* acting as licensors. Existential wh-phrases normally occur in negative sentences, such as *wo mei kan shenme (我没看什么)* meaning 'I didn't see anything'. Yuan's (2010) study concluded that L2 learners' judgements of Chinese sentences with wh-EPWs are indeterminate and that the semantics-syntax interface is established between EPWs and the lexical word licensors and not the functional-morpheme licensors. Yuan's study concluded that L2 acquisition of interfaces is reliant on the following variables: categorical nature of elements involved in the interface relationships, status of said interfaces in target languages, the input learners are exposed to, and cross linguistic influences (Yuan, 2010).

My interpretation of this data is that wh-words in Chinese function differently than those of most other languages in two regards. The first being that Chinese wh-words are *in situ*. This can cause certain sentences to seem ungrammatical to speakers of non-*in situ* languages while still being grammatically correct. The second is that Chinese wh-words can function, directly, in ways that wh-words in other languages may not be able to. For example, Chinese wh-words can be used as EPWs with negators, which is not possible in some languages. In turn it can be difficult for L2 learners to acquire a good handle on wh-phrases in Chinese and some phrases

may not be acquirable at all. These difficulties could possibly detract from a learner's fluency level.

Expressing Temporality with Aspect Markers. Temporality refers to the state of existing within or having to do with time. Zhao (2011) mentions that in Chinese temporality is signified through context and aspect markers (also see Huang, 2003; Smith & Erbaugh, 2005). Jin (2009) states that learners experience specific difficulties with each of the following aspect markers: *le (了), guo (过), zai (在),* and *zhe (着).* Jin claims it is difficult to map out an order of acquisition for these markers because L2 learners struggle with each marker at a different stage or time during learning. Jin's study revealed that low to mid-level learns are heavily influenced by the L1 language and tend to use *le,* which is a perfective verb-final, for all scenarios dealing with the past tense it is because they think that is the counterpart to the grammatical marker for past tense in English. Jin found that as learners become more proficient they gradually learn to properly use the target aspect marker. Zhao (2011) says that the restructuring of the aspectual system may come from L1 influences, exposure to the specific markers, and the complexity of said markers. Aspect markers also seem to have another effect that specifically affects oral Chinese. Duff and Li (2002) found that at some learners, particularly those of low levels, tend to underuse *le* in oral Chinese, even when it is necessary. Zhao (2011) states that telicity is significant to in determining the accuracy and use of *le* (also see Fan, 2005).

Reflexive Pronouns and Noun Phrases. A reflexive pronoun is a pronoun that is followed or preceded by the adjective, adverb, noun, or pronoun it refers to. The Chinese reflexive pronoun is *ziji (自己). Ziji* allows both local and long-distance binding (Zhao, 2011). Local binding of reflexive pronouns occurs in most languages, but long-distance binding is rarer.

However, findings seem to be inconclusive on whether or not the presence of long distance binding in the L1 language affects proper usage of or acquisition of *ziji*. Some studies have shown that having long distance binding in the L1 is advantageous, but others have shown that it makes little difference (Zhao, 2011).

Zhao (2011) states that Chinese and Japanese share the following properties: classifier projection, incompatibility of numerical classifiers with the plural marker, adjectival possessives, and co-occurrence of determinative elements. Zhao notes that none of these properties exist in the English language. Classifiers are particularly strange to English speaking learners because of an absences of an exact equivalent in English. A classifier, also known as a measure word, in Chinese is a word that accompanies a numeral and a noun. For example, to say "one tree" in Chinese you must use the appropriate classifier, *ke (棵)*, between the numeral and noun. The final written phrase would be *yi ke shu (一棵树)*, which would translate to one (yi) tree (shu), but the *ke* is omitted. *Ke* is omitted because it has no equivalent in English. However, the classifier equivalent is not always absent in English, but it is normally optional. For example, *yi bei pijiu (一杯啤酒)* can translate to *a cup of beer*. The classifier *bei* means cup and must be used in Chinese for that phrase. However, in English one can omit the word *cup* and just say *a beer*, this is not possible in Chinese. This can causes issues for English speakers learning Chinese. Japanese, like Chinese, has a classifier system. However, Zhao (2011) mentions a previous study showed that only the adjective possessive is found in Japanese learners' starting Chinese grammar set and that this implies that L1 transference is not certain (see Liang, 2006). The study further suggested that the Chinese plural marker *men (们)* is often omitted by English and Japanese speakers alike, regardless of the learner's level. However, they also state that learners' failure to properly use correct semantic Chinese classifiers does not harm their projection of

Chinese classifiers or its syntactic specifications. Zhao (2011) concludes that functional categories are able to be properly projected by L2 learners and that discrepancy between syntactic and semantic development exists. As such these issues can be seen as temporary difficulties.

Unaccusative Verbs, Unergative verbs, and Verb Raising. An unaccusative verb is an intransitive verb that has a syntactic argument that is not a semantic agent. An agent, in semantics, refers to the *doer* of an event or action. An unergative verb refers to an intransitive verb that is distinguished by having an agent argument. This means an unergative verb is one that has no object and describes involuntary human action or those of inanimate objects.

Zhao (2011) states that in Chinese, as in English, the external argument of an unergative verb is preverbal. However, he notes that the internal argument of an unaccusative verb may occur in the subject or object position, unlike English which regulates the internal argument to the subject position.

According to Zhao (2011) the distinction of unaccusative and unergative verbs is acquired very late and that the process is influenced by the L1 and suffers from overgeneralization (see Yuan, 1999). This directly influences a learner's ability to approach native speaker level fluency. Zhao elaborates by saying that near-native speakers are able to properly use unaccusatives and unergatives, while on the other hand learners of lower levels struggle with V-NP constructed unaccusatives due to L1 interference (see Shan, 2006). Some other, older studies have found that learners tend to avoid NP-V constructed unaccusatives and that when they do wish to indicate NP movement they do so in a passive sense. However, Zhao notes that Shan's (2006) newer study found none of this.

Some languages, such as German and French, allow thematic raising of verbs. In this sense, thematic verb raising refers to the raising of a verb before frequency indicators or negators. Chinese, English, and other languages do not allow for the thematic raising of verbs. Zhao (2011) states that regardless of whether a learner's L1 allows thematic raising of verbs interference of the L1 is not inevitable and that all learners of all levels show native-esque behavior (see Yuan, 2001, 2004). Zhao concludes that these findings suggest that L1 interference does not always occur and that L2 grammar does start from L1 grammar. It also suggests that L2 grammar can have specific features and functions at the start of learning even if the features differ in the learner's L1.

Causative and Resultative Verb Compounds. Chinese predicates can express and state imperfect and incomplete activities but cannot express accomplishments (Zhao, 2011). Basically this means that a single verb, in Chinese, cannot express accomplishment during a causative event and needs to be paired with another verb. For example, psych related verbs, such as *xingfen (兴奋),* cannot take an experiencer NP as an object (Zhao, 2011). This scenario seems to be unique to Chinese. Therefore, it will a source of difficulty for learns. Zhao further states that Chinese unaccusative verbs are not part of causative alternation and also cannot take an object NP. Resultative verb compounds (RVCs), including an activity predicate and a result predicate, are used instead to express accomplishment. An example of this is the unaccusative verb *duan/break (断)* which needs to take the verb *da/hit (打)* before it as *打断* in order to properly express a telic event (Zhao 2011). *Da* functions as the activity predicate, while *duan* functions as the result predicate.

Zhao (2011) states that learners can prototypical RVCs in a similar fashion to native speakers as long as the activity predicate is a transitive verb and the result predicate is an unaccusative verb (see Zhao, 2006). However, according to Zhao learners, even those of advanced levels, are unable to properly use or avoid RVCs of other types. Zhao (2011) claims that there is no L1 effect in the syntactic structure of Chinese RVCs, but it is found in the thematic structure and this causes learners to interpret ambiguous RVCs in an way that mirrors their counterpart in the learner's L1 even though they have no issues with syntactic representation. Zhao indicates that there is asymmetry between reconstruction of the syntactic and thematic structure in L2 Chinese. It further indicates that L2 structure does not develop uniformly and that syntactic and thematic structures develop separately.

Relative Clauses and Resumptive Pronouns. Chinese relative clauses are head-final. Korean relative clauses follow the same pattern as Chinese, but English relative clauses are head-initial. Hu and Liu's (2007) study actually found that the English-speaking learners are able to identify grammatical and ungrammatical relative clauses earlier than Korean speaking students. Hu and Liu suggest that English is superficially dissimilar to and this factor gives rise to a rapid restructuring in a learner's L2 grammar. They suggest that Korean speaking learners suffer from a surface similarity between Chinese and Korean in regards to head-directionality that leads to delayed restructuring.

According to Yuan and Zhao (2005) resumptive pronouns (RPs) are generally not allowed in English relative clauses. However, Chinese allows their use in in indirect object position and genitive position. Chinese does not allow for RPS in subject and direct object positions. Arabic languages allow RPs in direct, indirect, and genitive positions, but not in subject positions or matrix clauses. Yuan and Zhao found, in regards to RPs, that even though

Arabic speaking learners' L1 is more similar to Chinese, English-speaking learners are more accurate at in rejecting non-target-like RPs and in accepting target-like RPs. This refutes the prediction that was based on L1 similarities. Yuan and Zhao conclude that positive evidence from Chinese allows English-speaking learners to accumulate a superset Chinese grammar that allows both RPs and gaps, even though English only natively contains gaps. They found that Arabic languages and Chinese are similar in regards to how RPs function but not in regards to where they occur and this causes Arabic speaking learners tend to overgeneralize Chinese RPs. The findings coincide with the findings of Hu and Liu (2007). Zhao (2011) suggests that these two studies imply that L1-L2 similarities may not facilitate L2 acquisition and that differences between L1 and the target language might not be unavoidable obstacles to L2 acquisition.

Ba/Bei Structures and Telecity. Zhao (2011) states that the *ba (把)* and *bei (被)* structures are two of the most common sentence structures in Chinese. Learners typically have trouble with these Chinese topic structures because they do not have equivalents in other languages. *Ba* functions by selecting a theme noun phrase and placing it in a preverbal position. An example of this is: 我把你的苹果放在冰箱里 *(wo ba ni de pingguo fang zai bingxiang li)*, which translates to *I put your apple in the fridge*. In the English translation *ba* is completely omitted because has no equivalent and it is not even needed because in the English sentence the theme noun is placed after the verb. In the Chinese sentence the theme noun is preverbal. *Bei* serves as a passive marker and heads a passive structure. This can be seen in the following example: 那棵树被大风刮倒了 *(na ke shu bei da feng gua dao le)*, which translates to *The tree was uprooted by the gale. Bei* is omitted in English because it has no equivalent and English does not need to use a specific word have display this kind of passive structure. The structures are similar in that

they both have a telecity requirement for the event they depict. Only certain verb phrases may be used within these structures. (Zhao, 2011).

Zhao (2011) states that topic structures of Chinese are classified into two groups: derived topics and those that are base-generated. Zhao (2011) further states that, often, L2 learners acquire base-generated topic ability late due to learners mistaking Chinese sentences as being subject-prominent (see Yuan, 1995). Xiao (2004) found that eventually, and gradually, learners begin to focus on topic prominence over subject prominence due to heightened awareness of typological differences between their L1 language and Chinese.

Telecity refers to the property of a verb that presents an action as being complete. The previously mentioned *ba* and *bei* structures both require a verb to show telecity but not all verbs can be used. Zhao (2011) states that telicity is accurately represented in Chinese and that learners' difficulty with the *ba* and *bei* structures results from uncertainty on whether or not a certain verb phrase can be used with the structures (also see Huang & Yang, 2004; Huang et al., 2007). Zhao notes the *bei* structure is generally, incorrectly, equated to the English passive voice, while overgeneralization and simplification exist in the L2 *ba* structure. Zhao (2011) further states that learners either tend to use verbs with the structure without determining if the verb qualifies for the telecity requirement or that they over simplify the structure into that of a SVO structure (also see Jin, 1992; Du, 2004). This data signifies that L2 learners tend to use properties of counterpart L1 structures before actually acquiring L2 structures (Zhao, 2011).

Chinese Phonetic Transcription

Hanyu Pinyin, also known as just *pinyin*, is the current official phonetic system for transcribing pronunciation of Mandarin Chinese characters into the Latin alphabet. It should be

noted Chinese is not actually written in pinyin, but rather in Chinese Characters, and that pinyin is used solely for the phonetic transcription of said characters. The system is currently in use in the countries of China, Taiwan, and Singapore. Also, pinyin is often used in non-Chinese speaking countries for the names of officials and various other Chinese terms. The actual use of pinyin depends on the location in which is being used. In China it is used as a computer input method, educational purposes, and romanization, while in Taiwan it used almost exclusively for romanization. In Sigapore usage varies wildly. For the purpose of this section I will be focusing on the usage of pinyin in educational scenarios that relate to L2 Chinese acquisition.

According to Chung (2003) the most popular and conventional technique of teaching Chinese to learners is presenting them with a Chinese character, such as *(书)*, its pinyin "*shu"*, and the L1 equivalent. He states that some previous studies have shown that pinyin can help to promote effective learning of Chinese characters in three ways: firstly in that it helps pronunciation, secondly in that pinyin knowledge can allow learners to figure out how to pronounce new characters on their own, and finally that pairing a character with its L1 equivalent and pinyin allows for easier acquisition of said character.

However, Chung (2003) claims that this method may not be as effective as it is claimed to be. As such he conducted a study in order to determine the effectiveness of the traditional simultaneous representation method in regards to acquisition of Chinese character meaning and pronunciation. In order to do so he compared the simultaneous method with a feedback method, in which a character was presented first and then prompts were given afterward. His study revealed that the simultaneous presentation method actually hinders the learning of Chinese character. Due to learners already being familiar with the pinyin symbols and their mother language, English in this study, there was an interference when acquiring the characters. This

lead to problems with the acquisition of pronunciation and making of characters. The feedback method, in which English and pinyin were presented a few seconds after the corresponding character, proved to have superior results. Chung states that presenting the prompts after the character allows the character to briefly capture the learner's attention. This also allows the prompts to act as confirmation of the correct or incorrect meaning and pronunciation responses. This allows for steady formation of association between characters and verbal responses. According to Chung having the written pinyin displayed is more effective than learners listening to verbal pronunciation. Chung claims that this is likely due to the fact that verbal utterances are fleeting while written pinyin provides a visual sound clue. Overall the feedback method was found to be more successful than the simultaneous method, this is contrary to popular notion. As the simultaneous method is the most common method of teaching this presents learners with the added difficulty of contending with interference and learning in a less than ideal environment.

Acquisition of Mandarin Chinese Tones

Standard Chinese is a tonal language featuring four pronounced tones and a neutral tone. Tone is sometimes confused intonation, but they are not the same thing. Intonation is characterized as a fluctuation of voice in upward or downward motion. This is can be seen in English when a speaker asks a question and the intonation rises toward the end of the sentence. Tone, in tonal languages, is used to differentiate between words. In Chinese, tones are primarily used to differentiate the meanings of different words as their pronunciation may be the same. An example of this are the words *mǎ (马 (horse))* and the word *mā (妈 (mother))*. The syllable comprising each word is pronounced the same and only differentiated by the tones. According to Wang, Jongman, and Sereno (2014) Mandarin tones are physically manifested through different

fundamental frequency (F0) with F0 height and F0 contour serving as the primary acoustic parameters (also see Liu, 1924; Howie, 1976; Wu, 1986).

According to Wang, Jongman, and Sereno (2014), learners whose native language is non-tonal have great difficulty with tones as they are unfamiliar with F0 characteristics and the segmental structure. They further state that native speakers' processing of tones is lateralized in the left hemisphere of the brain and that this implies that native speakers process tones as linguistic units. Wang et al. questioned whether or not non-native speakers are also able to process tones as linguistically or just auditorily.

Tone Production. According to Wang et al. (2014) pitch range is one of the general measures associated with tone production. According to Chen (1974) the pitch range between spoken English (a non-tonal language) and Chinese was substantially different. Chen reports that Chinese speakers speaking Chinese had a 1.5 times wider pitch range than English speakers speaking English. However, Chen notes that when an English speaker switched to speaking Chinese, their pitch range widened significantly, but not to the extent of a Chinese speaker. Chen hypothesized that in order for learners with a non-tonal native language to successfully acquire a tonal language they would need to widen their pitch range.

According to Wang et al. (2014) American learners, who had studied Chinese for a total of four months, had difficulty with all tones, but especially with the 4th tone as it is prosodically less marked for English speakers (see Shen, 1989). Tone production error rates in Shen's (1989) study ranged as high as 55.6% for the 4^{th} tone and as low as 8.9% for the 2^{nd} tone. Wang et al. state that Miracle's (1989) study showed second-year American learners expressed an overall error rate of 42.9%. These errors were classified into one of two categories: tonal register errors

(too high or too low) or tonal contour errors. Distribution of the errors was even. 1st tone register errors came about by learners realizing the high level tone in low level tone space, while contour errors were realized by replacing the level contour with a falling contour. 2nd tone register errors were caused by learners beginning the tone too highly and contour errors resulted from the substitution of the rising contour with a falling or level contour. 3rd tone register errors were exclusively caused by realizing the tone too high in tone space. 3rd tone contour errors resulted from the substitution of the expected falling-rising contour with a solely rising contour. 4th tone register errors were the result of learners realizing the tone in mid-low tone space; 4th tone contour errors resulted from replacing the falling contour with a level one (see Miracle, 1989).

Wang et al. (2014) claim that tonal pattern is a key component of each word when native speakers acquire Chinese as L1. However, they state that non-native speakers lack the association between segmental structure and F0 contour. They attribute the difficulty involved with speakers of non-tonal languages acquiring tones to a lack of an overall sensitivity to tonal categories.

Tone Perception. Perception of tones differ between speakers of tonal and non-tonal languages (Wang et al., 2014). Wang et al. claim that research has shown that the perpetual weight of F0 height and contour are related to the linguistic experience of learners. According to Wang et al. English, non-tonal, listeners focus more on the F0 height than the F0 contour as tonal language speakers tend to do; the claim is that this is because English, and other non-tonal languages, lack contrastive tones, contour or otherwise (also see Gandour, 1983). Lee, Vakoch, and Wurm (1996) found that tonal language speakers are better at discriminating tones, in terms of both speed and accuracy, than non-tonal speakers. Lee et al. believe that speakers of tonal languages acquire general tone discrimination skills. Based on this information Wang et al.

(2014) hypothesized that the function of pitch in a listener's native language has an effect on the listener's tone perception. Wang et al. state that findings show that non-native learners' tone perception tends to be less categorical than that of native listeners.

Non-native tone perception is also dependent upon linguistic context and sentence position. Perception of tones seems to vary whether or not they are presented in isolation. Wang et al. (2014) state that when the 4th tone was in isolation and the final position of doublets and triplets it was the most easily identified (also see Broselow, Hurtig, & Ringen, 1987). However, if presented in a non-final, non-isolated position, perception of the 4th tone became the poorest. For English speakers, and possibly other learners, this can be attributed to the similarity between the Chinese 4th tone and the unmarked pattern of declaratives in English, both of which involve a falling pitch. This means that in final positions it is easy for English speakers to discern, while in other positions it becomes unfamiliar. The 4th tone was most often misidentified as the 1st tone. This misconception was related to the fact the both tone 1 and tone 4 start with in a high pitch, In the English language, high pitch is most closely associated with focused elements, such in the declarative contour. As such, English listeners tend to focus on the high portion of the contour. These listeners tend to ignore the falling portion of the contour as they believe that it is a typical part of sentence contour and do not associate it with the syllable. This indicates that a listener's tone perception is influenced by their native intonation system. It was also proposed that acoustic cues are also weighed differently by non-native speakers and that non-native speakers may have less perceptual resources left to deal with contextual information (Jongman and Moore, 2002).

Tone Perception Training. According to Wang, Jongman, and Sereno (2001) native Chinese speakers demonstrate the ability to lateralize processing of Mandarin tones in the left

hemisphere as lexical components. They found that non-native speakers lack this specialization. This causes non-native learners to process tones at a disadvantage compared to native speakers.

However, Wang, Spence, Jongman, and Sereno (1999) found that non-native learners are able significantly improve their ability to identify tones by undergoing in perceptual training. Improvement results in new contexts that are eventually stored in learners' long term memory (also see Wang, Jongman, & Sereno, 2003a). Wang, Jongman, and Sereno (2003b) found that improvements in tone perception and production from training also led to changes in cortical representations in the direction of native speakers. Wang, Jongman, and Sereno (2014) suggest that this information implies that adult production and perception systems still display plasticity and that cortical representations may continuously grow more native like with more Mandarin experience.

Chinese Characters

Chinese Writing System Overview. The Chinese writing system is a logographic system that uses characters to represent syllables. Each character represents a whole morpheme instead of a single phoneme. Many actual Chinese words are represented by reading multiple characters together as one word, such as 蚂蚁 (mayi - ant).

Kuo et al. (2015) estimate that over 80% of modern characters are composite characters made up of a semantic radical and a phonetic component (also see Chen, Allport & Marshall, 1996). The semantic radical indicates the meaning of a word, while the phonetic component indicates the character's pronunciation. Some special radicals, called *Wen* in Chinese, can function and have meaning on their own but many need to form a character by combining with

other components (Chen, Allport & Marshall, 1996). Kuo et al. (2015) state that except in a few instances, most semantic radicals occur on the left or top portion of a character.

Many characters share the same semantic radical that relates to the meaning of said characters, these types of characters are called radical-transparent characters. An example of this are the characters 骑 (ride) and 驴 (donkey) which have the radical 马 (horse). The correlation between the radical here and the meaning of the characters is rather self-evident. However, other words, such as 燕 (swallow (a bird)), do not have radicals that relate to the meaning of the character in question. 燕 has the radical 灬 (fire), instead of 鸟 (bird) that most characters having to deal with birds use. Fire has nothing to do with swallows and thus 燕 is not a radical-transparent character. These other types of characters are called radical-opaque characters. 70% of characters taught to beginner level learners are radical-transparent. (Kuo et al., 2015)

Written characters are also used for the purpose of differentiating between exact homophones. Exact homophones in Chinese refer to words that share the syllable and tone. An example of this are the characters: 是 (correct), 事 (affair), 市 (market), and 式 (type) which are all pronounced /shi4/. These words are differentiated by their written form and are pronounced identically. McBride-Chang and Zhong (2003) estimate each Chinese syllable has five homophones. Kuo et al. (2015) claims that this adds to the difficulty of Chinese vocabulary acquisition and that furthers the idea that radicals are even more important in regards to literacy development.

Character Acquisition Difficulties Due to Visual Complexity. Chinese characters are typical more visually complex than most alphabet based writing systems. This visual complexity can directly affect character acquisition. Visual complexity refers to the number of strokes in a

character, number of stroke patterns, and length of Chinese words. Kuo et al. (2015) conducted a study in which they determined the effect of the visual complexity of a character on a L2 learner's acquisition. Kuo et al. found that L2 learners acquired characters with fewer strokes easier than characters with many strokes. Characters with fewer strokes are also recognized more quickly than characters with more strokes. Kuo et al. determined that this can be attributed to a processing mechanism that encodes visual forms of words component by component. This implies that learners may process characters stroke by stroke, which would explain the difficulty in acquiring more visually busy characters. This form of encoding causes difficulties because of limited working memory capacity. The more visually complex a character is, the more load it puts on working memory, which leaves less memory capacity available for associating a character with its meaning and the retention of said association. Kuo et al. note that these findings are only relevant when regarding new, unfamiliar characters or characters that appear infrequently. Learners are not affected by visual complexity in this way when the characters occur frequently.

Kuo et al. (2015) also hypothesized that the age of a learner affects the difficult of character recognition but not acquisition. Kuo et al.'s (2015) study used adolescents as participants. Kuo et al. state that in order to determine the effect of age of character recognition a separate study would need to take place across development age groups.

The Effects of Radicals on Learners' Acquisition. Kuo et al.'s (2015) study found that radical presence affected second language learners' acquisition of characters. Learners were found to take an analytical approach to attend to semantic radicals. They then used radicals to infer and retain the meaning of new characters. Kuo et al. states this can be explained by through Dual Coding Theory. According to Dual Coding Theory, meaningful learning of characters

happens through association of characters with verbal definitions and nonverbal pictures (Kuo et al., 2015). Kuo et al. claim that verbal and nonverbal codes as defined by Dual Coding Theory play a significant role in learning and recognizing a character's meaning. Radical awareness, the ability to properly determine the radical of a character, also affected character acquisition. If a learner was aware of a character's radical it improved acquisition.

Conclusion

Summary

Mandarin Chinese is an extremely complicated language with an ever-growing presence in the world. However, second language learners of Mandarin Chinese must contend with numerous difficulties on the journey to second language acquisition. Firstly, like learners of all foreign languages they must deal with general issues regarding SLA, such as stress, anxiety, different task types, speed related difficulties, vocabulary retention, and various other problems. Secondly, learners of Chinese also have to deal with many issues specific to Chinese, such as the many morphological differences between Chinese and other languages, acquisition of tones, and the complexity of the Chinese writing system.

Thoughts for Future Research

General SLA Research. Research in the field of second language acquisition is already quite expansive. Of course there is always room for improvement in individual categories. However, the second language learning section of my paper is intended to give a general overview of the difficulties and processes involved in learning a second language. As such I will be discussing future prospects of second language acquisition research in the generalized sense.

Future studies may benefit from running parallel developmental studies. By this I mean a study that is researching the acquisition of a second language, say French, would have multiple groups of participants of around the same skill/experience level but of different native languages, say a native English-speaking group and a native Dutch speaking group. Researchers would use the groups the same in experiments and tests. My reasoning for this is that when the results of a test are revealed a researcher can compare the results of the multiple groups to see how they differ. I believe this will allow easier insight into what parts of a specific L1 transfer/interfere or do not transfer/interfere with the L2. Many studies referenced in my paper focused primarily on one language group acquiring a second language. However, some studies used multiple language groups and compared their results to find differences. I believe these studies, overall, seemed more cohesive and revealed more data about what parts of a L1 affected a L2.

Chinese Second Language Research. It is quite obvious, based on several studies reviewed in this paper, that over the past few decades research of Chinese as a second language has expanded greatly. However, the study of L2 Chinese acquisition is still a relatively new field. As such, it is suffers from some setbacks that other areas of research do not.

The first setback is the lack of a diverse range of L1 learners studied. It appears to me that most studies of L2 Chinese acquisition focus on English, Japanese, and Korean speaking learners. English-speaking learners are by far the most studied. Some studies did include participants from other L1 backgrounds, such as French and Dutch, but these studies are few and far between comparatively. The lack of diverse L1 participants may hinder L2 Chinese acquisition studies as a whole because results may not be universal and might be skewed towards interference of the frequently investigated language groups.

Secondly, I believe that L2 Chinese acquisition research may be at a disadvantage due to a lack of longitudinal studies. I found few longitudinal studies in my review. Most studies tended to be completed in short periods of time and with small groups of participants. I think some large longitudinal studies would help to better show the difficulties and coping processes as development progresses.

Finally, I believe that L2 Chinese acquisition research would greatly benefit if more studies focusing on specific parts of Chinese, such as tone acquisition and character retention, were conducted. These kinds of studies already exist but I believe that there would be added benefit if more were conducted and the results of said studies were compared to and used within the realm of other SLA research.

I believe that these types of future changes can help to make the field of L2 Chinese acquisition research more comprehensive, reliable, and far-reaching.

Acknowledgments

I would like to note that this review is not all-encompassing and does not cover every possible caveat of L2 Chinese acquisition or general SLA. Some topics were not focused on in my review due to time constraint, lack of adequate research on said topics, and/or lack of relevance to my overall review. Also, it should be noted that the Second Language Learning section of this paper uses research from various L1 and L2 backgrounds. However, all the research I used in this review agrees with any other findings mentioned unless expressly stated.

References

Abdel Latif, M.M. (2012). Sources of L2 writing apprehension: a study of Egyptian university students. *Journal of Research in Reading*, *38*(2), 194-212.

Aida, Y. (1994). Examination of Horwitz and Cope's construct of foreign language anxiety: the case of students of Japanese. *The Modern Language Journal*, *78*(2), 155-67.

Chang, A. C., Wen-pin Wu, B., & Pang, J. C. (2013). Second language listening difficulties perceived by low-level learners. *Perceptual & Motor Skills*, *116*(2), 415-434. doi:10.2466/22.23.PMS.116.2.415-434

Chen, G.T. (1974). The pitch range of English and Chinese speakers. *Journal of Chinese Linguistics* 2, 159-171.

Cheng, Y.-S., Horwitz, E. K. & Schallert, D. (1999). Language anxiety: Differentiating writing and speaking components. *Language Learning, 49*, 417–446. doi:10.1111/0023-8333.00095

Chung, K., (2003) Effects of Pinyin and first language words in learning of Chinese as a second language. *Journal of Behavioral Education, 12*(3), 207-223.

De Jong, N. H., Florijn, A., Hulstijn J. H., Schoonen, R., & Steinel, M. P. (2010). Linguistic skills and speaking fluency in a second language. *Applied Psycholinguistics*, *34*, 893–916. doi:10.1017/S0142716412000069

De Jong, N. H., Groenhout, R., Hulstijn, J. H., & Schoonen, R. (2012). Second language fluency: Speaking style or proficiency? Correcting measures of second language fluency for first language behavior. *Applied Psycholinguistics*, *34*(5), 893-916. Doi: 10.1017/S0142716412000069

Duff, P.A. & Li, D. (2002). The acquisition and use of perfective aspect in Mandarin. In: Salaberry R & Shirai Y (Eds.), *The L2 acquisition of tense-aspect morphology* (pp. 417-453). Amsterdam, Netherlands: John Benjamins.

Hu, X. & Liu, C. (2007). Restrictive relative clauses in English and Korean learners' second language Chinese. *Second Language Research, 23*, 263–87.

International Monetary Fund (2015, April). *World economic outlook: uneven growth—short- and long-term factors.* Washington, DC: International Monetary Fund.

Jin, L. (2009). *The development of aspect marking in L2 Chibnese by English native speakers.* Beijing: Foreign Language Teaching and Research Press.

Jongman, A., & Moore, C. (2000). The role of language experience in speaker and rate normalization processes. *Proceedings of the 6th International conference on Spoken Language Processing, I,* 62-65.

Kuo, L., Kim, T., Yang, X., Li, H., Liu, Y., Wang, H., Park, J., & Li Y. (2015). Acquisition of Chinese characters: The effects of character properties and individual differences among second language learners. *Front. Psychol., 6,* 986. doi:10.3389/fpsyg.2015.00986

Lee, Y., Vakoch, D. & Wurm, L. (1996). Tone perception in Cantonese and Mandarin: A cross-linguistic comparison. *Journal of Psycholinguistic Research, 25*(5), 527544.

Lervag, A. & Aukrust V.G. (2010). Vocabulary knowledge is a critical determinant of the difference in reading comprehension growth between first and second language learners. *The Journal of Child Psychology and Psychiatry, 51*(5), 612-620.

Lewis, Paul, M., Simons, G.F., & Fennig, C.D. (Eds.) (2015). *Ethnologue: languages of the world (eighteenth edition).* Dallas, TX: SIL International. Online version: http://www.ethnologue.com.

Matsuura, H. (2007) Intelligibility and individual learner differences in the EIL context. *System*, *35*, 293-304.

Mcbride-Chang, C., & Zhong, Y.-P. (2003). A longitudinal study of the effects of phonological awareness and speed of processing on early Chinese character recognition. In C. McBride-Chang & H.-C. Chen (Eds.), *Reading development in Chinese children* (pp. 37-49). Westport, CT: Praeger Press.

Phillips, E. (1992). The effects of language anxiety on student test oral performance. *The Modern Language Journal, 76,*14-26.

Rai, M.K., Loschky, L.C., & Harris, R.J. (2015) The effects of stress on reading: a comparison of first-language versus intermediate second-language reading comprehension. *Journal of Education Psychology, 107*(2), 348-363.

Wang, Y., Spence, M.M., Jongman, A., & Sereno, J.A. (1999). Training American listeners to perceive Mandarin tones. *Journal of the Acoustical Society of America, 106,* 3649-3658.

Wang, Y., Jongman, A., & Sereno, J.A. (2001). Dichotic perception of Mandarin tones by Chinese and American listeners. *Brain and Language, 78,* 332-348.

Wang, Y., Jongman, A., & Sereno, J.A. (2003a). Acoustic and perceptual evaluation of Mandarin tone productions before and after perceptual training. *Journal of the Acoustical Society of America, 113,* 1033-1044.

Wang, Y., Sereno, J.A., Jongman, A., & Hirsch, J. (2003b). MRI evidence for cortical modification during learning of Mandarin lexical tone. *Journal of Cognitive Neuroscience, 15*(7), 1-9.

Wang, Y., Jongman, A., & Sereno, J.A. (2014). L2 Acquisition and processing of Mandarin tone. In P. Li, L. Tan, E. Bates, & O.J.L. Tzeng (Eds.), *Handbook of Chinese Psycholinguistics* (pp. 239-277). Cambridge, UK: Cambridge University Press.

Woodrow, L. (2006). Anxiety and speaking English as a second language. *RELC Journal, 37*(3), 308-328. DOI: 10.1177/0033688206071315.

Xiao, Y. (2004). L2 acquisition of Chinese topic-prominent constructions. *Journal of the Chinese Language Teachers Association, 39,* 65–84

Yuan, B. (2010). Domain-wide or variable-dependent vulnerability of the semantics–syntax interface in L2 acquisition? Evidence from wh-words used as existential polarity words in L2 Chinese grammars. *Second Language Research, 26,* 219–60.

Yuan, B. & Zhao, Y. (2005). Resumptive pronouns in English–Chinese and Arabic–Chinese interlanguages. *International Review of Applied Linguistics in Language Teaching, 43,* 219–37.

Zhao, Y. (2011). Review article: A tree in the wood: A review of research on L2 Chinese acquisition. *Second Language Research, 27*(4), 559-572.

Recommended Reading

Bennett, K. & Rhodes, S. (1988). Writing apprehension and writing intensity in business and industry. *Journal of Business Communication, 25*(1), 25–39. doi:10.1177/002194368802500102

Biber, D. (1988). *Variation across speech and writing*. Cambridge, UK: Cambridge University Press.

Broselow, E., Hurtig, R.R., & Ringen, C. (1987). The perception of second language prosody. In G. Ioup and S.H. Weinberger (Eds.), *Interlanguage phonology, the acquisition of second language sound system* (pp. 350-361). Cambridge: Newbury House Publishers.

Chafe, W. L. (1985). Linguistic differences produced by differences between speaking and writing. In D. R. Olson, N. Torrance, & A. Hildyard (Eds.), *Literacy, language and learning: the nature and consequences of reading and writing.* Cambridge, UK: Cambridge University Press.

Chang, C-S., & Read, J. (2006). The effects of listening support on the listening performance of EFL learners. *TESOL Quarterly*, 40, 375-397.

Chang, C-S., & Read, J. (2007). Support for foreign language listeners: its effectiveness and limitations. *RELC Journal*, 38, 373-394.

Chen, Y. P., Allport, D. A., & Marshall, J. C. (1996). What are the functional orthographic units in Chinese word recognition: the stroke or the stroke pattern? *The Quarterly Journal of Experimental Psychology, 49A*, 1024-1043.

Coniam, D. (2001). The use of audio or video comprehension as an assessment instrument in the certification of English language teachers: a case study. *System, 29,* 1-14.

Daud, N.S.M., Daud, N.M. & Abu Kassim, N. L. (2005). Second language writing anxiety: Cause or effect. Malaysian Journal of ELT Research (MELTA), 1. Available from: http://www.melta.org.my/Inaugural-Volume- 2005/q?cid=70&doit=showclass

Du, H. (2004). The acquisition of the Chinese ba-construction by adult second language learners. Unpublished doctoral dissertation, University of Arizona, AZ, USA.

Ekong, P. (1982). On the use of an indigenous model for teaching English in Nigeria. *World Language English, 1,* 87-92.

Erkan, D.Y. & Saban, A.I. (2011). Writing performance relative to writing apprehension, self-efficacy in writing, and attitudes towards writing: A correlational study in the Turkish tertiary-level EFL context. *Asian EFL Journal, 13*(1), 164–192.

Fan, H. (2005). Acquisition of tense-aspect morphology by English learners of French and Chinese. Unpublished doctoral dissertation, University of Florida, FL, USA.

Freedle, R., & Kostin, I. (1999). Does the text matter in a multiple-choice test of comprehension? The case for the construct validity of TOEFL's minitalks. *Language Testing*, 16(1), 2-32.

Gruba, P. (1997). The role of video media in listening assessment. *System*, 25, 235-245

Herron, C. (1994). An investigation of the effectiveness of using an advance organizer to introduce video in the foreign language classroom. *The Modern Language Journal, 78*(3), 190-198.

Herron, C., Hanley, J., & Cole, S. P. (1995) A comparison study of two advance organizers for introducing beginning foreign language students to video. *The Modern Language Journal, 79,* 387-395.

Horwitz, E.K., M.E. Horwitz & J. Cope (1986). Foreign language classroom anxiety, *The Modern Language Journal, 70*,125- 32.

Howie, J.M. (1976). *Acoustical studies of Mandarin vowels and tones.* Cambridge, UK: Cambridge University Press.

Huang, C-C (2003). Mandarin temporality inference in child, maternal and adult speech. *First Language, 23*, 147–69.

Huang, Y. and Yang, S. (2004). L2 acquisition study of Chinese ba-structure (in Chinese). *Shijie Hanyu Jiaoxue [World Chinese Teaching] 1*, 49–59.

Huang, Y., Yang, S., Gao, L., Zhang, W., & Cui, X. (2007). A study of L2 acquisition of Chinese bei-structure (in Chinese). *Shijie Hanyu Jiaoxue [World Chinese Teaching] 2,* 76–90.

Jensen, C., & Hansen, C. (1995). The effect of prior knowledge on EAP listening-test performance. *Language Testing, 12*(1), 99-119.

Jin, H.G. (1992). Pragmaticization and second language acquisition of Chinese ba constructions. *Journal of the Chinese Language Teachers' Association, 28,* 33–52.

Lee, S. (2005). Facilitating and inhibiting factors in English as a foreign language writing performance: A model testing with structural equation modeling. *Language Learning, 55*(2), 335–374. doi:10.1111/j.0023- 8333.2005.00306.x

Liang, G. (2006). Nominal phrase in English and Japanese speakers' L2 Mandarin grammars. Unpublished doctoral dissertation, University of Cambridge, UK.

Liebert, R.M., & L.W. Morris (1967). Cognitive and emotional components of anxiety: A distinction and some initial data, *Psychological Reports, 20,* 975-78

Liu, F. (1924). *Szu Sheng Shih Yen Lu.* Ch'un Yi Shanghai.

Major, R. C., Fitzmaurice, S. F., Bunta, F., & Balasubramanian, C. (2005). Testing the effects of regional, ethnic, and international dialects of English on listening comprehension. *Language Learning, 55*(1), 37-69.

Macintyre, P.D. (1999). Language anxiety: a review of the research for language teachers. In D.J. Young (Ed.), *Affect in foreign language and second language learning: A practical guide to creating a low-anxiety classroom atmosphere* (pp. 24-45). Boston: McGraw-Hill.

Miracle, W.C. (1989). Tone production of American students of Chinese: A preliminary acoustic study. *Journal of Chinese Language Teachers Association, 24,* 49-65.

Mueller, G. A. (1980). Visual contextual cues and listening comprehension: an experiment. *The Modern Language Journal, 64,* 335-340.

Naveh-Benjamin, M. (1991). A comparison of training programs intended for different types of test anxious students: further support for an information-processing model. *Journal of Educational Psychology*, *83*(1), 134-39.

Ortmeyer, C., & Boyle, P. J. (1985). The effect of accent differences on comprehension. *RELC Journal*, *16*, 48-53.

Scales, J., Wennerstrom, A., Richard, D., & Wu, S. H. (2006). Language learners' perceptions of accent. *TESOL Quarterly*, *40*(4), 715-738.

Shan, C.K. (2006). Split intransitivity in Chinese as a second language. Unpublished doctoral dissertation, University of Cambridge, UK.

Shen, X.S. (1989). Toward a register approach in teaching Mandarin tones. *Journal of Chinese Language Teachers Association, 24,* 27-47.

Shohamy, E., & Inbar, O. (1991). Validation of listening comprehension tests: the effect of text and question type. *Language Testing, 8,* 23-40.

Skehan, P. (2003). Task based instruction. *Language Teaching*, *36*, 1–14.

Smith, E. L., & Bisazza, A. J. (1982). The comprehensibility of three varieties of English for college students in seven countries. *Language Learning*, *32*(2), 259-269.

Smith, C.S. and Erbaugh, M. (2005). Temporal interpretation in Mandarin Chinese. *Linguistics 43*, 713–56

Tauroza, S., & Allison, D. (1990) Speech rates in British English. *Applied Linguistics*, *11*(1), 90-105.

Tauroza, S., & Luk, J. (1997). Accent and second language listening comprehension. *RELC Journal*, *28*, 54-71.

Tavakoli, P., & Skehan, P. (2005). Strategic planning, task structure, and performance testing. In R. Ellis (Ed.), *Planning and task performance in a second language* (pp. 239–276). Amsterdam, Netherlands: John Benjamins.

Teng, H. C. (1998). The effects of text types and task types on English listening comprehension. *English Teaching and Learning (Taiwan)*, *23*, 5-18. [in Chinese].

Tobias, S. (1985). Test anxiety: interference, defective skills and cognitive capacity, *Educational Psychologist*, *3*, 135-42.

Wilcox, K. G. (1978). The effect of accent on listening comprehension—a Singapore study. *ELT*, *32*(2), 118-126.

Wolff, D. (1987). Some assumptions about second language text comprehension. *SSLA*, *9*, 307-326.

Wu, Y. (1998). What do tests of listening comprehension test? A retrospective study of ESL test-takers performing a multiple-choice task. *Language Testing*, *15*(1), 21-44.

Wu, Z.J. (1986). The spectrographic album of mono-syllables of Standard Chinese. Beijing: Social Science Press.

Yuan, B. (1995). Acquisition of base-generated topics by English-speaking learners of Chinese. *Language Learning*, *45*, 567–603.

Yuan, B. (1999). Acquiring the unaccusative/unergative distinction in a second language: Evidence from English-speaking learners of L2 Chinese. *Linguistics*, *37*, 275–96.

Yuan, B. (2001). The status of thematic verbs in the second language acquisition of Chinese: Against inevitability of thematic-verb raising in second language acquisition. *Second Language Research, 17,* 248–72.

Yuan, B. (2004). Negation in French–Chinese, German–Chinese and English–Chinese interlanguages. *Transactions of the Philological Society, 102,* 169–97.

Zeidner, M. (1998). *Test anxiety: The state of the art.* New York: Plenum Press.

Zhao, Y. (2006). *Causativity in L2 Chinese grammars.* Beijing: Peking University Press.